Reply to Office Action of February 5, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Canceled) A multi-component gas analyzing method using FTIR, comprising:

a quantitatively analyzing a plurality of components in a sample based upon an absorption spectrum obtained by FTIR;

calculating multi-component concentrations from a mixed gas spectrum by using a quantitative algorithm; and

after calculating the multi-component concentrations, correcting for an influence due to a difference in a base gas composition between and exhaust gas and a calibration gaserror in the calculated multi-component concentrations caused by a change in an intensity spectrum obtained by FTIR due to a presence of a coexistent gas in the sample.

- (Canceled) The method of claim 21, further comprising:
 measuring the coexistent gas component using FTIR; and
 directly applying resulting data from the correcting calculations.
- 3. (Canceled) The method of claim 21, further comprising: measuring the coexistent gas component using a method other than FTIR; and using an external analyzer to read resulting data from the correcting calculations, wherein time matching is performed by a CPU of the FTIR.
- 4. (Canceled) The method of claim 1, wherein the correcting step corrects influences due to a difference in a base gas composition between an exhaust gas and a

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calibration gas.

- 5. (Canceled) The method of claim 21, wherein the correcting step corrects influences of coexistent H2O with respect to CO, CO2, NO, and N2O.
- 6. (Canceled) The method of claim 5, wherein the influence is approximated by a linear equation for a fixed H2O concentration.
- 7. (Canceled) The method of claim 5, wherein the influence is approximated by a quadratic equation for a fixed H2O concentration.
- 8. (Canceled) The method of claim 21, wherein the correcting step corrects influences of coexistent H2O with respect to CO.
- 9. (Canceled) The method of claim 8, wherein the influence is approximated by a linear equation for a fixed H2O concentration.
- 10. (Canceled) The method of claim 8, wherein the influence is approximated by a quadratic equation for a fixed H2O concentration.
- 11. (Canceled) The method of claim 21, wherein the correcting step corrects influences of coexistent H2O with respect to CO2.
- 12. (Canceled) The method of claim 11, wherein the influence is approximated by a linear equation for a fixed H2O concentration.
- 13. (Canceled) The method of claim 11, wherein the influence is approximated by a quadratic equation for a fixed H2O concentration.
- 14. (Canceled) The method of claim 21, wherein the correcting step corrects influences of coexistent H2O with respect to NO.
- 15. (Canceled) The method of claim 14, wherein the influence is approximated by a

linear equation for a fixed H2O concentration.

16. (Canceled) The method of claim 14, wherein the influence is approximated by a quadratic equation for a fixed H2O concentration.

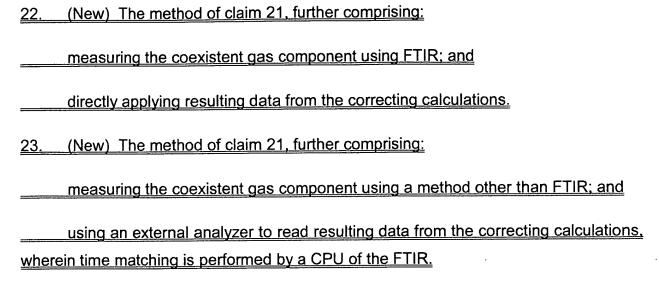
- 17. (Canceled) The method of claim 21, wherein the correcting step corrects influences of coexistent H2O with respect to N2O.
- 18. (Canceled) The method of claim 17, wherein the influence is approximated by a linear equation for a fixed H2O concentration.
- 19. (Canceled) The method of claim 17, wherein the influence is approximated by a quadratic equation for a fixed H2O concentration.
- 20. (Canceled) The method of claim 21, wherein the correcting step corrects influence caused by a difference in water concentration between exhaust gases and a calibration gas and a change in H2O concentration in a sample gas being measured.
- 21. (Currently Amended) A multi-component gas analyzing method using FTIR, comprising;

quantitatively analyzing a plurality of components in a sample based upon an absorption spectrum obtained by FTIR;

calculating multi-component concentrations from a mixed gas spectrum by using a quantitative algorithm; and

after calculating the multi-component concentrations, correcting for an influence due to a difference in a base gas composition between and exhaust gas and a calibration gaserror in the calculated multi-component concentrations caused by a change in an intensity spectrum obtained by FTIR due to a presence of a coexistent gas in the sample.

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- 24. (New) The method of claim 21, wherein the correcting step corrects influences of coexistent H2O with respect to CO, CO2, NO, and N2O.
- 25. (New) The method of claim 24, wherein the influence is approximated by a linear equation for a fixed H2O concentration.
- 26. (New) The method of claim 24, wherein the influence is approximated by a quadratic equation for a fixed H2O concentration.
- 27. (New) The method of claim 21, wherein the correcting step corrects influences of coexistent H2O with respect to CO.
- 28. (New) The method of claim 27, wherein the influence is approximated by a linear equation for a fixed H2O concentration.
- 29. (Newl) The method of claim 27, wherein the influence is approximated by a quadratic equation for a fixed H2O concentration.
- 30. (New) The method of claim 21, wherein the correcting step corrects influences of coexistent H2O with respect to CO2.

- 31. (New) The method of claim 30, wherein the influence is approximated by a linear equation for a fixed H2O concentration.
- 32. (New) The method of claim 30, wherein the influence is approximated by a quadratic equation for a fixed H2O concentration.
- 33. (New) The method of claim 21, wherein the correcting step corrects influences of coexistent H2O with respect to NO.
- 34. (New) The method of claim 33, wherein the influence is approximated by a linear equation for a fixed H2O concentration.
- 35. (New) The method of claim 33, wherein the influence is approximated by a quadratic equation for a fixed H2O concentration.
- 36. (New) The method of claim 21, wherein the correcting step corrects influences of coexistent H2O with respect to N2O.
- 37. (New) The method of claim 36, wherein the influence is approximated by a linear equation for a fixed H2O concentration.
- 38. (New) The method of claim 36, wherein the influence is approximated by a quadratic equation for a fixed H2O concentration.
- 39. (New) The method of claim 21, wherein the correcting step corrects influence caused by a difference in water concentration between exhaust gases and a calibration gas and a change in H2O concentration in a sample gas being measured.